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THE NEW YORK
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RUFUS PORTER, EDITOR.

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☞ *See Advertisement on last page.*

AWAY IN MEXICO.

Despondency is all the rage,
And moping all the go,
Our husbands, sweethearts, all are gone
Away to Mexico!
Some never smile;—some utter sobs;—
Some cry, outright, with wo;
Till one would think *man*kind were all
Away in Mexico.
You ask Miss Snooks, "Why, what ails *you?*"
Her tone is sad and low,
As she replies—"My George has gone
Away to Mexico!"
Some wives who used to vex their lords,
Until they jump'd Jim Crow,
Now cry they long to be with them,
Away in Mexico.
But when dear HUBBY *does* come back,
(It always turns out so)
How oft, poor soul, he'll wish he was
Away in Mexico.
Some wives have faces three feet long,
The reason I don't know,
But think they dread their lords may come
Away *from* Mexico.
There's Mrs. Stubbs, the other day,
Was talking very slow
About her grief for poor, *dear* Stubbs
Away in Mexico.
And, all the time, her eyes were fix'd
On handsome Captain DOUGH,
Worth fifty of her husband—Stubbs—
Away in Mexico.
But all that wives are now about
I do not choose to show,
But think their husbands better come
Away from Mexico.
But I'm a maid, and have no lord,
Although I have a beau,
Who'se gone, among the volunteers,
Away to Mexico.
I'm true to him—yet love to flirt—
And have a youth in tow,
Who'd do as well, were poor Charles hurt,
Away in Mexico.
So, ladies, dry your weeping eyes,
Nor let their currents flow;
We've chaps on hand as good as those
Away in Mexico.
Then, whilst our hearts are free as winds
That from the northwest blow,
We'll letters write to gull our swains
Away in Mexico.

Postscript.

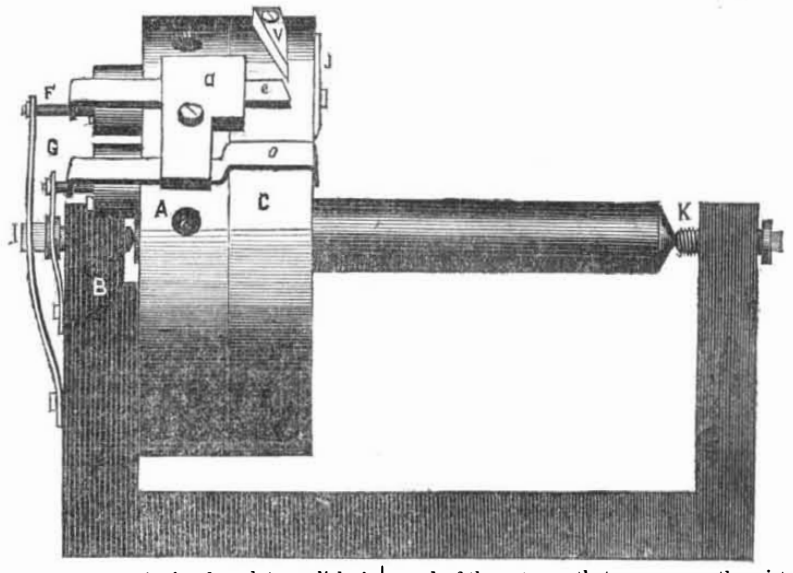
"Whilst shines the sun," the proverb says,
"Your hay you'd better mow,"
So, *verbum sap* to those who've lords
Away in Mexico.

Epigram on a Pale Faced Lady.

Why is it that on Emma's cheek
The lily blooms and not the rose?
Because the rose has gone to seek
A place upon her husband's NOSE.

At a recent term of a Court in Worcester, Mass., there were 194 complaints and 155 persons plead guilty of rumselling. The aggregate of fines is supposed to be about $10,000.

LINDSLEY & TOMPKINS' ROTARY ENGINE.



EXPLANATION.—A circular plate or disk A is permanently attached to the post or upright B which is one piece with the bed-plate or base. A revolving disk or plate C, is mounted on a horizontal shaft which has its bearings on the points of the two screws I and K; the shaft passing through the plate A without bearing. Each of the two disks which are in contact, have a circular groove near the periphery thereof; and each groove being of a half round concave, the two constitute a round orifice extending round the area. To the groove or revolving plate is attached a piston which fills both grooves, and revolves with the plate. A sliding gate is adjusted within the standing plate being attached to the gate rod F which passes through a stuffing box which prevents the escape of steam: and this gate also fills both of the hollow grooves. To this gate rod is connected a sliding bar e, which is bent at one end for that purpose; and this slide (which by way of distinction may be called the *gate* slide) passes through a guide block D and extends over the periphery of the revolving plate: and a triangular cam V, attached to this plate, in its progress comes in contact with the end of the slide *e* and by its obliquity forces back the slide, and with it the rod F and the gate, so as to allow the piston to pass, when the gate is instantly closed by the force of the spring which is also connected to the end of the rod F and attached to the post below. The steam is admitted by the aperture A just forward of the gate; so that as soon as the piston has passed the gate, the steam entering and acting between the piston and the gate, drives the former forward. Another spring G is connected to the end of a valve rod, which is attached to a valve which is adjusted to shut off the current of steam from the groove, or piston channel. The valve rod is operated by the valve-slide O, which passing through the guide-block, is elevated from the periphery high enough to allow the cam V to pass under it, and being bent centreward, terminates near the back side of the plate. A long curved cam J, is attached to the side of the revolving plate, and passing under the end of the valve slide, draws the same forward (against the tendency of the valve spring) by which the induction of steam is cut off, and the steam already within the channel, continues to act on the piston by its expansive force. The position of the valve cam may be adjusted to cut off the steam at any required point of the revolution of the plate. This steam escapes by the exhausting aperture N. It is not intended to drive this engine with a very rapid motion, as in that case the gate would not move quick enough to supply its office; but it will be observed that the two faces of the plates as also the piston and gate, will naturally keep themselves adjusted to a close fit, so as to be steam tight, or nearly so, without packing. Invented by I. Lindsley & E. Tompkins of Newark, N. J.

Revolutionary Anecdote.

Mr. B., a merchant of Providence Rhode Island, and a man quite celebrated afterwards for his liberality and public spirit, was the owner of a most fortunate privateer which sailed out of the port of Providence. On one occasion when she had just unshipped a cargo of sugar, &c., taken from a very rich prize, in rolling it into the yard, one of the hogsheads stove, and a quantity of sugar fell out.—A poor woman in the neighborhood seeing the disaster, ran and filled her apron. Mr. B., from the loft of his store called out, "What are you doing there?" The poor woman looking up, answered, "Privateering sir." The retort was so forcible, that the merchant immediately made her a present of the entire hogshead.

"Putting it on thick."

A house painter of our acquaintance has a son, a mere lad, who occasionally assisted him in his jobs. He used the brush very dexterously, but unfortunately had acquired the habit of "putting it on a little too thick." The other day his father, after having frequently scolded him for his lavish daubing, and all to no purpose gave him a severe flagelation.—"There you young rascal," said he after he had performed the painful duty "do you like that?" "Well, don't know dad," whined the boy in reply, "but it seems to me, you put it on a darn sight thicker than I did."

Gen. Taylor.

The unostentacious appearance of old Rough and Ready, has never been more happily described than in the following paragraph by G. de L. in the N. Y. Spirit of the Times:

"Winding down a hill, our column was halted to let a troop of horse pass. Do you see at their head a plain-looking gentleman, mounton a brown horse, having upon his head a Mexican sombrero, dressed in a brown, olive-colored loose frock coat, gray pants, wool socks, and shoes? From under the frock appears the scabbard of a sword; he has the eye of an eagle, every lineament of his countenance is expressive of honesty, and a calm determined mind.

Reader, do you know who this plain-looking gentleman is? No? It is Major General Zachary Taylor, who, with his military family, and a squadron of dragoons as an escort, is on his way to Victoria. He never has around him any of the "pomp and circumstance of glorious war," but when the battle rages, when victory hangs upon a thread, when the bravest even dread the galling fire, you will find foremost among them all, that brave and gallant general, whose presence insures a victory."

LIST OF PATENTS

Issued from the United States Patent Office first from the 26th of January, 1847, to the 10th of February, 1847, inclusive.

To Samuel H. Lewis, of New York for improvement in the Filtering Stop Cock. Patented Jan. 26, 1847.

To Jessee Read, of Marshfield, Mass., for improvement in Steering Apparatus for Vessels. Patented Jan. 26, 1847.

To Job Sheldon, of New Haven, Conn., for improvement in Planing Machines. Patented Jan. 26, 1847.

To Alfred C. Jones, of New Orleans, La., for improvement in Steam Presses. Patented Jan. 26, 1847.

To William D. Hills, of Cuyahoga, Ohio, for improvement in Harness Buckles Patented Jan. 26, 1847.

To Joseph Heygel, of Baltimore, Md., for improvement in Smut Machines. Patented Jan. 26, 1847.

To John A. Roebling, of Pittsburg, Pa., for improvement in apparatus for passing suspension Wires for Bridges across Rivers, &c. Patented Jan. 26, 1847.

To James Rowe, of Cincinnati, Ohio, for for improvements in Carriage Wheels. Patented Jan. 26, 1847.

To Daniel Ball, of Albany, New York, for improved apparatus for Closing Doors. Patented Feb. 1, 1847.

To Moses Coburn, of Savannah, Geo., for improvement in combining Metallic Reeds with Piano Fortes. Patented Feb. 1, 1847.

To H. H. King, of New York, for improvement in Shower Baths. Patented Feb. 1, 1847.

To Charles W. Granniss, of Collins, New York, for improvement in Heating elevated Ovens. Patented Feb. 1, 1847.

To Lemuel Lyon, of Roxbury, Mass., for improvement in the manufacture of Hat Bodies. Patented Feb. 5, 1847.

To A. W. terson of Pittsburg, Pa., for improvement in Trusses. Patented Feb 5, 1847.

To Elbridge Webber and Nathan O. Mitchell, of Gardiner, Me., for improvement in machinery for Turning Tree Nails. Patented Feb. 5, 1847.

To Samuel Loveland, of Oswego, New York for improvement in the Floating Dry Dock — Patented Feb. 5, 1847. Ante dated 7th of Nov. 1846.

To Lott M'Gill, of Philadelphia, Pa., for improvement in machinery for Planing Slats. Patented Feb. 5, 1847. Ante dated 27th of Nov. 1847.

To Frederick D. Sampson, of Brookfield, Conn., for improvement in Straw Cutters. Patented Feb. 5, 1847.

To Richard Bacon of Simsbury, Conn., for improvement in Fuses for Blasting, &c. Patented Feb. 5, 1847.

To Robert Brannan, of Baltimore, Md., for improvement in Composition for Paints. Patented Feb. 5, 1847.

To Charles Pope and Kasson Frazer, of Syracuse, New York, for improvement in Harness Saddles. Patented Feb. 5, 1847.

To Albert Eames, of Chicopee Falls, Mass. for improvement in wrought iron Cannon.—Patented Feb. 5, 1847.

To Elijah Horner, of East Brook, Pa., for improvement in obtaining Flax Seed Oil. Patented Feb. 9, 1847.

To A. B. Taylor, and H A. Burr, of New York, for improvement in machinery for making Hat Bodies. Patented Feb. 9, 1847.

To James Armstrong and Hardy Herring, of Near Lisbon, N C., for improvements in Water Wheels. Patented Feb. 9, 1847.

To Ralph Reed of Cincinnati, Ohio, for improvements in Mariners' Time Compasses.—Patented Feb. 9, 1847.

To John Lewis, of New Haven, Conn., for improvements in Barrel Machinery. Patented Feb. 10, 1847.

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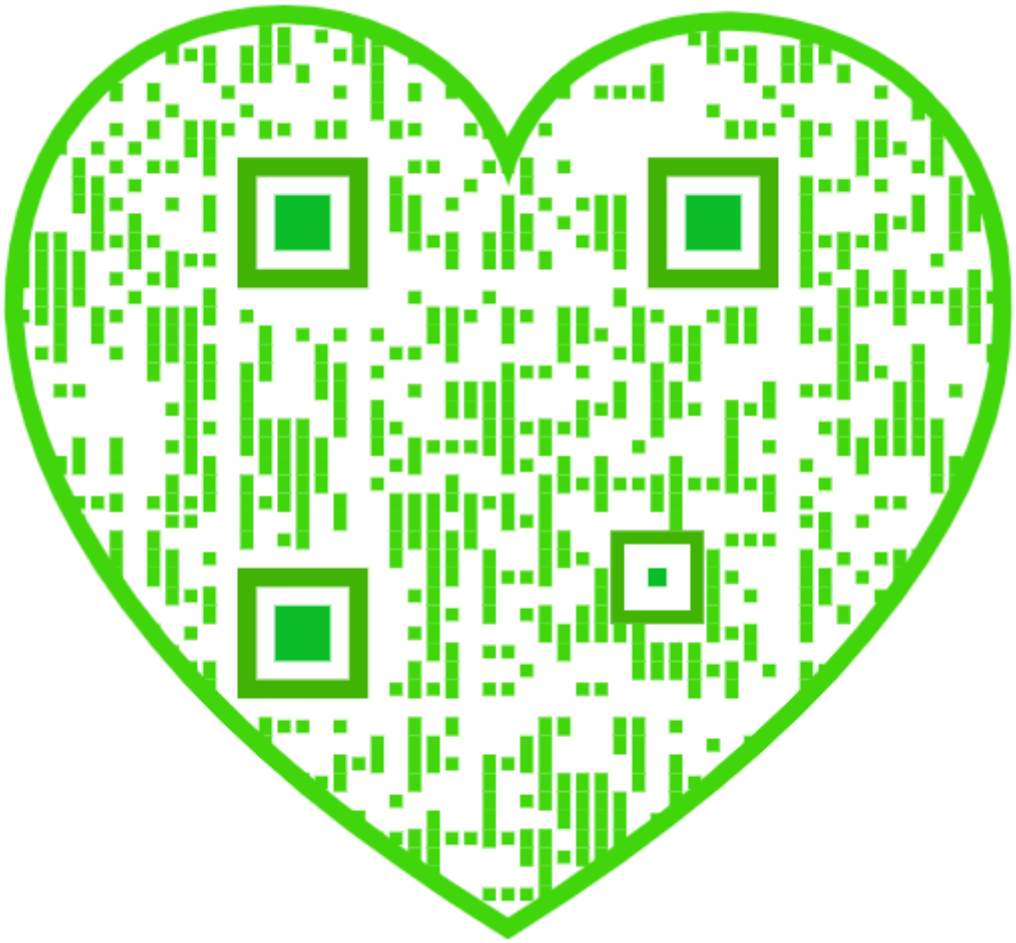

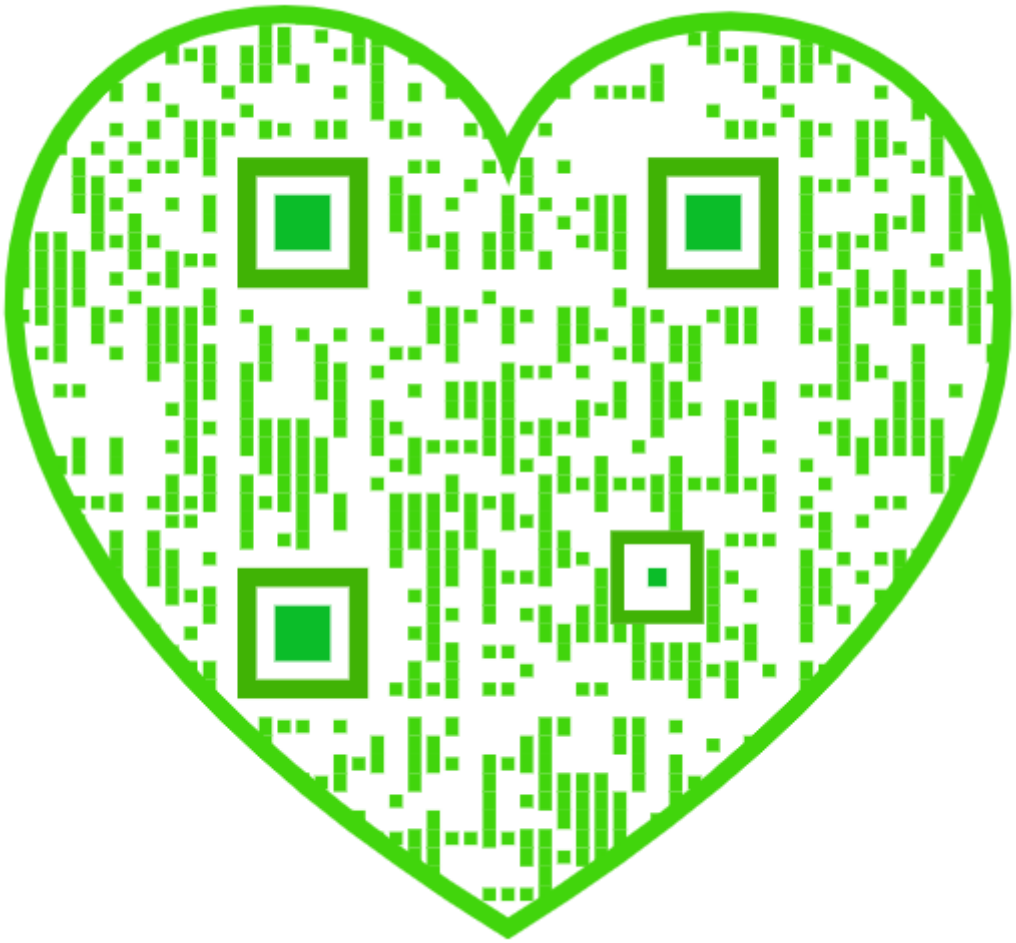

Recent Fires.

Several of the fires recorded in the following catalogue, occurred two or three weeks since, but the insertion thereof in our columns has been deferred.

In Lewisville Ia, a fire occurred which destroyed an entire square of that thriving village, embracing thirteen dwellings shops and stores.

At Springfield Ill, the city hotel and outbuildings together with a row of 8 or 10 other buildings including the Mayor's were destroyed.

At Utica, a Foundry and stove factory together with a machine shop and card manufactory.

At Carlisle Pa, a hotel adjoining the county jail took fire, and both were consumed, together with three prisoners confined in the jail, who had not been remembered, or were not thought worth saving. They were probably poor debtors.

In Medford Mass., a new dwelling house nearly completed, and belonging to Mr. Geo. Adams.

At Bedford Me., the dwelling house of Mr. Richard Thomas, with furniture and provisions, and $275 in money which Mr. T. had accumulated for the purpose of paying for h is farm.

At a place called "the Vineyard," Md., the dwelling house of Mr. J. H. Hopkins.

In Cambridgeport Mass., a large house with a store of wooden ware and a large quantity of furniture, the property of Mr. N. B. Mountfort.

In Worcester Mass., two buildings in Washington square.

At New Haven a large store house on Long Wharf, owned by Mr. E. Hotchkiss.

At Stockport near Hudson N. Y., the large manufacturing establishment known as Marshall's Print-works, including several buildings, and estimated in value at $200,000—no insurance.

At Lynden Corner Vt., a large building belonging to Mr. E. M. Chase ;—loss about four thousand dollars.

At Cambridge Md., a large mill belonging to Wm. S. Jackson—loss $3,000.

At Versailles Ia., a flouring mill worth four thousand dollars.

At Cincinnati a smoke house containing *twenty five thousand* barrels of beef ;—loss $250,000.

At Albany, two barns with six horses. A cow escaped by leaping through a window

At Salem Mass., an engine house belonging to the Eastern Rail road Company.

In Boston, a store under Richie Hall took fire whilst a ball was in progress in the hall ; there was a great "getting down stairs," of ladies and gents, minus overcoats and hoods.—Loss $4,000.

At Woodbridge Ct., a barn with five cattle and two horses, the property of Col Lyman, Manville.

In Norfolk Va., a large row of buildings,—number not stated : loss $60,000. Two lives lost by an explosion of camphine.

Near Wilmington N. C., the turpentine distillery of David Saunders Esq

In West Gardiner Me., the dwelling house of Mr. James Lord, and old gentleman, who perished in the flames.

At Mobile, a range of stores six in number, with their contents.

At Carrolton, O., the steamboat National,—burned to the waters edge.

At West Stockbridge, the factory of Butolph, Sprague & Co.

At Vergennes Vt., the woolen factory owned by Gen. S. P. Strong : also the new grist mill of M. C. W. Bradbury. Loss $10,000.

In Philadelphia, the Third street Mansion House, in which were residing Mr. & Mrs. Charles Kean, Col. Perkins and bride of Boston, and ex-empress Iturbide :—supposed to be fired by design.

At Leyden Vt., the large store of E. B. Chase, with several other stores and offices.

THE WEATHER, &c.

The following table shows the temperature by thermometer, and that indicated by the magnetic wires, for several hours each day from Tuesday, Feb, 15th, to Tuesday, Feb 23d, inclusive, as reported for the Scientific American by Prof. E. Meriam.

TUESDAY, FEBRUARY 16th.

	Hours, A. M.									Hours, P. M.									
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
Therm.					25	25	26	26	26	26	28	28	28	29	29	30	30	32	32
Wires,			45	45	45	46	47	47	47	47	49	48	48	48	48	49	49	50	50
WEDNESDAY, 17th.																			
Therm.	32	32	32	33	33	34	36	38	41	42	44	44	43	42	40	38	38	36	36
Wires,	48	48	48	49	49	50	51	52	54	54	54	54	52	51	50	49	49	48	48
THURSDAY, 18th.																			
Therm.	32	32	30	31	37	37	38	39	40	39	39	38	36	36	35	34	34	34	34
Wires,	47	47	47	48	51	52	52	52	52	51	51	50	49	49	49	48	48	48	48
FRIDAY, 19th.																			
Therm.		31	31	32	31	32	33	34	34	34	33	34	34	33	33	33	34	33	34
Wires,		57	48	48	48	49	50	50	49	49	49	49	49	49	49	49	50	50	48
SATURDAY, 20th.																			
Therm.		34	34	34	34	35	37	40	41	41	41	41	40	39	38	39	36	34	34
Wires,		49	48	49	49	51	52	53	51	53	52	52	51	50	49	49	48	48	48
SUNDAY, 21st.																			
Therm.				32	29	28	29	29	29	29	30	29	28	27	27	27	28	27	27
Wires,				47	47	46	47	47	47	47	48	47	46	46	46	46	46	48	47
MONDAY, 23d.																			
Therm.				25	25	26	27	28	27	28	28	28	27	27	27	27	26	26	26
Wires,			46	45	46	47	48	48	47	48	47	47	47	47	47	47	47	47	48
TUESDAY 23d.																			
Therm.			20	20	20	20	22	22	23	21	25	26	26	25	23	22	19	19	19
Wires,			44	45	45	45	46	46	46	46	46	47	46	46	45	45	43	43	43

Mr. Meriam remarks concerning the peculiar indications on Saturday and Sunday, the 20th and 21st: "A distant disturbance is indicated by the state of the wires and thermometer for the last 48 hours, and one of a two-fold operation."

Comets.

Arago, says, speaking of comets : "Let us suppose a comet, of which we only know that at its perihilium, it is nearer the sun than we are, and that its diameter is one fourth of that of the earth, the calculation of probabilities shows that of 281,000,000 of chances, there is only one unfavorable, there exists but one which can produce a collision between the two bodies. As for the *nebulosity*, in its most general dimensions, the unfavorable chances will be from ten to twenty in the same number of two hundred and eighty one millions.—Admitting then, for a moment, that the comets which may strike the earth with their *nuclei*, would annihilate the whole human race, then the danger of death to each individual, resulting from the appearance of an *unknown* comet, would be exactly equal to the risk he would run if in an urn there was only one single white ball, of a total number of 281,000,000 balls, and that his condemnation of death would be the inevitable consequences of the white ball being produced at the first drawing."

Chinese Artesian Wells.

The Chinese apparatus for boring Wells is thus described. It consists of a heavy bar of cast iron six to ten feet long, and from four to six inches in diameter ; the lower end furnished with a boring tool combined with a motion pipe, and which is suspened by a rope passing over a large pulley fixed over the bore holes. This weight is wound round a windlass, and the whole is so contrived that the weight may fall from any required height. The tension given to the rope produces a circular motion sufficient to change the place of the cutting tool at each descent.

How to borrow a Shilling.

"Can you give two sixpences for a shilling?" asked a little boy of a grocer's clerk.—"Certainly," said the clerk, handing out two sixpenny pieces. "Well," said the boy picking up the sixpences and turning to go out, "mother says she will send you the shilling to-morrow,"—and was off.

A Merry Subject.

There were no less than seven thousand persons present at a recent ball given in Baltimore for the benefit of the suffering poor of Ireland. It is well, if people will be merry, to remember the afflicted in their mirth.

Increase of Trade in Europe.

A Denmark paper reports that the number of vessels that passed the Sound last year was 18,765, being much greater than in any preceding year. The increase over the number of 1845, was 2,815.

Of one hundred thousand barrels of flour which had been ordered for France, from the United States, nearly the whole had arrived at Havre, prior to the last dates.

The Alms House Department of this city supports about 10,000 dependents. The supplies during the last month averaged $1000 per day.

Providential Escapes.

The Honorable Daniel Webster has, in three different instances, escaped danger, and perhaps death, by the merest accident. In his recent exordium in the Lexington case, before the Supreme Court of the United States, he spoke feelingly and impressively in reference to these providential interpositions. A correspondent of the Boston Journal thus refers to it:—Mr. Webster said it was his intention to take passage on the Lexington the trip she was burnt, but some trifling circumstance which arose as he was about to start, prevented. He then paused for a few moments, and remarked—that he was at Albany on a certain occasion, and but a very short time before the boats were ready to leave, he concluded he would go to New York ; he started hastily, and when near the wharf, inquired of a friend which boat he had better take, there being two before him—the Swallow and the Rochester—upon which he advised him to take the latter, which he did; the "Swallow" left the landing first, and was soon out of sight, and he thought no more of her ; till his attention was called towards her by some noise and excitement, when he saw her light go down, and heard the dying shrieks of her ill-fated passengers. Mr. W. paused again—and then referred to his intention of taking passage on the "Steamer Atlantic," the trip she was lost, but in consequence of the inclemency of the weather, he deferred his departure till the next day."

Indian corn is now selling at Terre-Haute, Indiana, on the Wabash river and canal, for twenty cents per bushel—worth in Ireland over $2 per bushel.

A great water fall of 60 feet descent, has been discovered in the St. Louis river, west of Lake Superior.

Lumbermen in Maine are doing a fine business,—having about two feet of heavy snow in the woods.

The wild pigeons, says the Cincinnati Gazette, are going south in flocks like the clouds in a wind storm.

There were 13,502,248 pounds of green and black teas exported from China to the United States during the year ending July 1st, 1846.

In Warren county, Pa., an election was held, and every township except one voted for "*no license*" by large majorities.

A firm in London has concluded a negotiation for a loan to the United States, of £4,000,000 sterling.

The bill to abolish capital punishment in Wisconsin, was defeated on the final vote in the Council, by only *one* majority.

Twenty-five head of cattle, belonging to a drover, were drowned, lately, while attempting to cross Cayuga Lake on the ice.

At Deerfield, near Utica, on the 25th ult, the thermometer indicated 25 degrees below zero.

RAILROAD INTELLIGENCE.

Western Railroad.

The extensive increase of business on this road has induced the company to put measures in progress for increasing the capital to $10,000,000, and lay a second track on the road. This company has labored under serious disadvantages on account of the monopoly between Boston and Worcester, but this road has been exceedingly productive nevertheless. It would not be surprising if a majority of the stock of the Boston and Worcester should ere long be in the hands of the stockholders of the Western : such an event would materially enhance the value of the Western stock.

Newburg Branch.

This branch of the Erie Railroad is progressing in good style. We learn that the work on the whole line is in a state of forwardness, and with the exception of a mile or two at this end of the route, will be graded by the middle of next summer.

Central Railroad.

All the stock of this important road, has been subscribed for, and several hundred shares over. This road which is to connect Pittsburg with Philadelphia, is an enterprise of much importance to the public in general as well as to Philadelphia in particular. The citizens of Pittsburg have imbibed some degree of prejudice against this route, on account of the opposition manifested by the Philadelphians against the Pittsburg and Baltimore route : but as this circumstance has had the effect to secure both charter and subscriptions to the Central road, the Pittsburgians will be ready to share its benefits.

Norwich and New London.

According to present appearances the Norwich and Worcester Railroads will be extended to New London without long delay. The New Londoners are wide awake to the enterprise, as well they may be. It would be the first great and good thing ever accomplished for that city, and many of the citizens, even of Connecticut, would soon learn that New London is within the limits of the State. It is proposed to take up all of that road now extending from Norwich to Allyn's Point, and lay the whole of it on the western side of the river Thames, commencing from Norwich and running to New London. One hour's time will be gained by the operation by passengers to and from Boston or New York. The cost of the improvement is estimated at $300,000.

Pittsburg and St. Louis.

Ohio, Indiana and Illinois are moving in favor of a railroad from St. Louis to the Ohio river. The Ohio Legislature offer the right of way free of charge. The City Councils of St. Louis have memorialized the Legislature of Missouri, for permission ao subscribe half a million of dollars to the stock of a railroad to run from that city eastwardly to join such other railroads as may be distributed through the States of Illinois, Indiana and Ohio.

Hudson River Railroad.

It is with much gratification that we announce that by the promptness and enterprise of the citizens of New York and the principal river towns, the entire required capital for this road was promptly subscribed in season ; and that the public may now anticipate with confidence the early completion of a thoroughfare by which a citizen of New York may take his seat at 7 A. M., visit Albany, spend two hours in business or calling on friends, and return to the city in season for tea, not to say dinner.

Newburyport and Lowell.

The *silver greys* are waking up to the importance of a railroad communication between Newburyport (Mass.) and Lowell direct, via Georgetown, Bradford and Andover The estimated cost of the road to Bradford (opposite Haverhill) is $209,000, of which a large portion is already subscribed. At Bradford the road will intersect with the Boston & Maine railroad which passes through north Andover ; whence a branch may be constructed to Lowell via the new city of Lawrence.

In Boston during the month of February, the fire companies were called out twenty three times.

Elihu Burritt computes that the English have expended enough in fighting the French, to have purchased the whole of France, at $70 per acre.

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A SONG OF LABOR.

All honor to the hard worn hands
That earth-born toil are bearing,
And honor to the sturdy bands,
That earth's cold crusts are sharing,
By forge and field their arms they wield,
By bench and anvil toiling,
In serried strength, our country's shield,
They keep her flag from soiling.

Wake ! wake the lay, each child of song,
Your anthem'd pæans pouring,
Till echoes wake and run along,
Like ocean thunders roaring!
Till o'er our soil each son of toil
Shall list your loud hosanna,
And hero-like bid pride recoil,
And feast on reason's manna

The good cordwainer sits him down,
Upon his throne of leather,
And covets not the tyrant's crown
Where clustered jewels gather :
High prizes he the soul, that free
The mind by power unbroken,
To him loud mirth and jocund glee ;
Are Freedom's language spoken.

" Ye ho ! Ye ho !" the seamen shout
From every crested billow,
" Ye ho ! heigh ho !" each watch about,
Like music lulls his pillow ;
And midst the storm his heart is warm,
The light of home is burning,
And kindly thoughts like blossoms swarm,
With genial spring returning.

Up from the forge the sparkling blaze
Lights on the smith to glory,
The yeomen stout, with morning rays,
Shake down night's tear-drops rosy ;
And solid health, with solid wealth,
Keep step with footfall steady,
Nor comes old age with creeping stealth,
But finds them ripe and ready.

Oh ! all things labor that have birth,
From mote to towering mountain—
The oak that springs from out the earth—
The water in its fountain :
Each blazing star that beams afar,
Its motion ceases never,
And myriad worlds of spirits are
To good works bound forever.

Then honor to the lusty hands,
That earth-born toil are bearing,
And honor to the sturdy bands,
That earth's cold crusts are sharing ;
By forge and field their arms they wield,
By bench and anvil toiling,
In serried strength, our country's shield,
They keep her flag from soiling.

Earthquake in Scotland.

(*Concluded from No.* 23.)

The state of the weather at Saltville mountains of Southwestern Virginia, altitude 1782 feet on the 24th, 25th, 26th, and 27th of November, was as follows :

Tuesday, 24th, 6 A. M., Temp 28 ; 7, 30 1-2 ; 8, 31 1-3 ; 9, 40 ; 10, 52 ; 11 to 12, 51 ; 1 to 2, 52 ; 3 to 4, 50 ; 5, 48 ; 6, 43 ; 7, 8. 9 and 10, 38,—cloudy all day ; wind S. W. at sunrise, and rest of the day, N. E. , 49-100 of an inch of rain fell during the day, and 54-100 of an inch fell during the night, making one inch and 3-100 of an inch.

Wednesday, 25th, 6 A. M., Temp. 28 ; 7, 30 ; 8, 31 ; 9 and 10, 38 ; 11, 30 ; 12, 31 ; 1, 2 and 3, 28 ; 4, 25 ; 5 to 10, 24 ; wind W. very strong ; snowing all day.

Thursday, 26th, 6 to 7, 18 ; 8, 19 ; 9, 23 ; 10 28 ; 11, 32 ; 12 to 1, 46 ; 2, 40 ; 3, 38 : 4, 36 ; 5, 22 ; 6, 20 ; 7, 19 ; 8, 18 ; 9 to 10, 20 ; cloudy in morning and at noon ; clear at 9 P. M. Wind S. W. all day blowing a gale ; 4-100 of an inch of rain fell.

Friday, 27th, 6 to 7, 9 ; 8, 11 ; 9, 24 ; 10, 31 ; 11, 32 ; 12, 38 : 1, 40 ; 2, 36 ; 3 to 9, 34; 10, 33, and next morning 38 ; having risen in the night time ; cloudy and calm all day. Pigeons flying south in great numbers

The state of the atmosphere at Syracuse, N, Y., altitude 400 feet, on the 24th, 25th, 26th and 27th of November, was as follows :

Tuesday, 24h, sunrise 33 ; 9 A. M., 35 ; 3 P. M. 42 ; 9, 37 ; wind S. W. all day. Snow commenced falling at 2 A. M. and continued till 7, A. M., one inch deep ; Dew point at sunrise 28 ; at 3 P. M 30 ; Barometer, 29, 32 all day.

Wednesday, 25th, sunrise 30 ; 9 A M. 31 ; 3 P. M. 22 ; 9,21. Wind N. E. at sunrise and at 9 A. M ; at 10 A. M. shifted to the North, and continued so till past midnight. Snow commenced falling at 4 A. M., continued till after midnight, fell 10 inches deep ; Dew point at sunrise 26 ; 3 P. M 18. The melted snow made 70-100 of an inch of water. Barometer 29,06 at sunrise and at 9 A. M. ; 28,84 at 3 P. M., and 28,40 at 9 P. M.

Thursday 26th, Temp. at sunrise, 20 ; 8 A. M. to 9 P. M. 26 : equilibrium of 12 hours.—Wind N. W. at sunrise and at 9 A. M. : S. W. at 3 and 9 P. M. Snow fell at intervals most of the day ; fell two inches deep. Dew point sunrise 14 ; 3 P. M. 12. Barometer at sunrise and 9 A. M. 29,00 ; 3 P. M. 29,06 ; 9 P. M., 29,60

Friday, 27th, sunrise, Temp. 24 ; 9 A. M. 26 ; 3 P. M. 36 ; 9 P. M. 30 Wind W. at sunrise and at 9 A M., and S. E. at 3 and 9 P. M. Dew point at sunrise 12 ; 3 P. M. 14.—Barometer at sunrise 29,44 ; 9 A. M. 29,54 ; and 3 P. M. 29,54 ; 9, 29,40. Canal closed with ice the first time this season.

At Cobourg, in the earthquake district of Upper Canada, 12 miles from Rice Lake, and 8 miles from Grafton Harbor, the weather on the 24th, 25th, 26th, and 27th Nov. was as follows :

Tuesday, 24th, 8 A. M. 31 1-2 ; 10, 34 1-2 ; 1 P. M. 37 1-2 ; 2, 37 ; 4, 36 ; 12 P. M. 29.—Snow fell before daylight and during the day.

Wednesday 25th, 8 to 10 A. M. 19 ; 1 P. M. 21 ; 3, 21 1-2 ; 7, 21 1-2 ; 12 P. M. 18. Wind high. Equilibrium.

Thursday 26th, 8 A. M. 30 ; 10, 29 ; 1, 33 ; 3, 28 1-2 ; 4, 30 ; 7, 28 1-2 ; 10, 27 1-2. Weather pleasant.

Friday, 27th, 8 A. M. 27 ; 9, 34 ; 11 P. M 38. Weather pleasant.

At Flatbush, L. I., altitude 65 feet, the state of the atmosphere on the 24th, 25th, 26th and 27th Nov. was as follows :

24th, morning, Temp. 37 ; Barometer 29,70 ; Wind N. W. : fair ; noon, Temp. 42 ; Barometer 29,65 ; evening, Temp. 42 ; Barometer, 29,65 ; Wind N. W. ; fair.

25th, morning, Temp. 36 ; Barometer 29, 25 ; Wind N. E. Rain commenced before daylight and continued till half past 5 P. M., when it changed to snow ; snow fell for an hour. Rain fell to the depth of one inch and 50-100 of an inch ; noon, Temp. 40 ; Barometer 29,90 ; evening, Temp. 34 ; Barometer 29,80 ; Wind N. E.

26th, morning, Temp. 24 ; Barometer, 29,30 ; Wind N. W. ; noon, Temp. 32 ; Barometer 29,45 ; evening, Temp. 28 ; Barometer 29,60 ; Wind West. Rain, 20-100 inch.

27th, Temp. 25 ; Barometer 29,90 all day ; Wind W. all day ; noon, Temp 32 ; evening, same.

The steamer Atlantic was wrecked on the rocks of Fisher's Island, in Long Island Sound on Thursday, the 26th of October, and was disabled on the night of the 25th, and left to the force of the wind.

The British steamer North America, on her passage from St. John, N. B. to Boston, when off Mount Desert, the wind blowing a gale from the S. S. W., on the night of the 25th November, 1846, burst her steam pipe, she cast anchor, but subsequently cut her cables and drifted on shore. Passengers and crew saved, one fireman lost. Vessel and cargo a total loss.

The Cambria steamer, arrived at Boston, brings accounts from the overland mail from India, of a terrible hurricane at Madras, on the 25th of November, which done great damage to the shipping.

Compare these records with the records of the Earthquake (on the 25th of November) in Scotland, the account of which is set forth in full in the previous part of this communication, published in the Scientific American of the 27th ult.

The connection will be found extensive and unquestionable. I will not theorise when facts are so conclusive.

I have thus presented the state of the atmosphere at six different and wide spread localities, in five of which the day on which the earthquake took place, and the three following days, is stated.

The results all show that the disturbance which I suggested in the observations published on the 28th, were indicated with accuracy.

E. MERIAM.

Brroklyn Heights, Feb. 22, 4 A. M.

HINCKLEY, (Ohio,) Feb. 8, 1847.

Mr. Editor.

The following is a brief description of a Bee Hive which I have constructed and have now in my possession, and for which I intend to apply for letters Patent, as soon as a model and drawings are procured unless previously satisfied that the invention is not new. The body of the hive is constructed of metalic plates, four of which are united together, forming a metallic box, minus top and bottom, the joints being made water tight. Into that end of this box which is intended for the top of the hive, a large wire, having eyes formed in it by being bent in a manner similar to that which Tinners adopt in the manufacture of pails, kettles &c., to attach bails to them, is attached by bending the edges of the plates around it and about half an inch more or less of the lower end of each plate is bent nearly at right angles inward.

Another box is formed in the same manner as that above described, except that there is a rabbit formed in two of the plates by bending them about an inch, more or less, from the upper end outward, and then at about half that distance they are again bent upward and the bottom of each plate is bent outward. The box last described being about an inch smaller than the other, is inserted into it; the projections at the bottom coming in contact, are soldered together, forming a water tight vessel surrounding the inner box except its top and bottom. A sufficient number of frames, according to the dimensions of the hive, are formed by uniting with beams or cross bars of sufficient length to reach across the hive and rest in the rabbets, two upright posts with each bar or beam, at such distances from its ends as will allow the frame to slide into the inside box, the posts touching its sides; and also there are two other bars united with the posts, one at the bottom and the other in the middle between the top and bottom. Each frame resembling a window sash, constructed to receive two panes of glass with one of its end pieces projecting beyond its sides. The beams and posts are about one and one-eight inches in width, and are placed at from three to five eighths of an inch from each other. The cover or top of the hive is a plate of metal of proper dimensions to allow of its being bent or sunk down at a proper distance from its edges so that the sunk post shall project below the lower surface of the plate, and the edges are then bent up so that they will project an inch or more above its upper surface, forming a water tight vessel on the top, the sunk part forming a small trough all around the cover and the projection below, shutting over the top of the inside box of which the hive is composed like a snuff box cover. An oblong aperture is made through the cover surrounded by a rim, made water tight where it connects with the cover and at its corners which extends as high as the rim which surrounds the cover. This aperture is closed by a cover perforated in a similar manner to that of a pepper box. A bail or handle is attached by means of hooks at its ends inserted into the eyes before described by which it may be hung up.

A stop cock is inserted in the lower end of the hive for the purpose of allowing any liquid by which the hive may be surrounded to be drawn off; also a tube is inserted in a hole made through the cover in the little trough before described by which any fluid may be conducted from the cover into the reservoir surrounding the body of the hive; the tube may be closed at pleasure with a cork or plug, and the reservoir in the cover then filled if necessary. The advantages gained by the use of this hive are, 1st, by attaching guide combs to the bars of the frames, the bees are induced to attach those which they build each to a separate frame. 2nd, these frames with the combs attached may be removed at pleasure. 3rd, the frames if attached with glue or wax to the sides of the hive by the bees, may be disengaged without cutting the combs, by surrounding the inner portion of the hive with a hot fluid. 4th, the combs may be renewed by removing the frames that are filled and supplying their places with those that are empty, when the bees will re-load them. 5th, the effluvia arising from the aperture in the cover will attract the moths or millers and many if not all of them will be drowned or destroyed in the liquid. 6th, the temperature of the hive may be regulated by surrounding it with a liquid of the temperature required. 7th, the bees may be driven from their hive into another of the same kind which is empty in the winter, the whole of the comb inspected and the bees returned to the hive without destroying any of them.

Having observed in the "Scientific American," descriptions of new inventions for which it was stated that the inventors intended to apply for letters patent, and thinking that such publication might be beneficial to them by informing the commissioner of Patents, and others, of the existence of the thing described, I have thought it expedient to forward this communication to you, confiding that you will make such disposition of it as will not be detrimental to my interests.

Respectfully Yours.

JACOB SHAW, Jr.

EAST LIVERPOOL, (Ohio.)

Mr. Porter,

Dear Sir :—I have been engaged for several years past in preparing a new set of astronomical tools on a new and improved plan, together with various methods of correctly ascertaining all the particulars of Eclipses, Transits, Constellations, &c., by sundry projections.

Since I have been taking your excellent paper, I had thoughts of furnishing you with my plan of projecting a Solar Eclipse for any particular place (say Pittsburgh,) with the necessary diagram, composed of lines and circles, all in the limits of a semi-circle of six inches radius. The explanation I suppose would take up about two columns of your paper.

Would it not be an interesting item to many of your readers? were I to lay before you the method and the projection, would they in due time find a place in the Scientfic American.

Yours, &c. S. C. H.

Feb., 18, 1847.

It would give us much pleasure to publish your description, and we doubt not that many of our readers would be highly gratified with the perusal. ED.

BOSTON, Feb 23, 1847.

Mr. Editor.

SIR,—I noticed in your last paper an account of a new invention entitled a " Rail Road Alarm," and in your remarks upon it, you recommended the inventor to think of an improvement in Gates for crossings.

I take the liberty to say, that I have a plan of a Gate that I think will answer the purpose of which you speak. I have had it in contemplation for a year or more past, but knowing the dilatoriness of Rail Road Companies to adopt any thing of an improvement unless coming from a high source, which I cannot claim ; therefore I have not done any thing to bring it into notice. If you wish I can send you a plan of it.

Yours in haste, G. K. S.

There can be no harm in sending your plan : it will be interesting to some people, and you will have the credit at least.—ED.

To the Editor of the Scientific American:

Dear Sir:—Among the number of *extras* taught at our public schools, is the art of multiplication by logarithms. To show the *immense* value of this method to "a man in a hurry," I give you from " Davis' Elementary Algebra," the following example :

" What is the product of 7 mutiplied by 12?

" By refering to the table of logarithms we find that the logarithm of 7 is 0.845098

Logarithm of 12 is 1.079181

Logarithm of the product 1.924279

" In *searching* along the table we find that 84 stands opposite the logarithm of the product of 7 and 12 ; therefore 84 is the product of 7 multiplied by 12 !" There, Mr. Scientific, isn't that one way of getting over the old fashioned twice 1 is 2 : twice 2 is 4 ; twice 3 is 6, &c., why at this rate of getting ahead we shall soon have to let " the old thing" slide. M.

The authorities of the state of Maryland, have succeeded in hanging a negro in Baltimore,—he having no rich friends.

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NEW INVENTIONS.

Lamp without a Wick.

Few will hesitate to admit that if a lamp can be so constructed as to support a clear flame without the use of any wick whatever, it must be an important invention; and such is the principle of an invention, a description of which is given by the inventor, as follows:—

"The fluid to be burnt is put into any suitable reservoir for holding it. This reservoir is placed above, and a little one side of the point where it is to be burnt. From this reservoir, there is to be a pipe, which is to project downwards and turned or bent out horizontal. At the end of this pipe there is to be a short glass tube set in. The top of this tube is enlarged into a cup-like form, and sets up perpendicular in it. The pipe which this is set into has a faucet valve in it, the same as in a gas pipe This valve is to open and close the connection between the reservoir and glass tube. When the fluid is to be burnt, the valve is opened to allow the fluid to pass through it into the glass tube, up to its surface' It is now to be closed until the fluid in the tube is fired, when it is opened enough to allow it to pass through as fast as it will burn without smoking. By turning the valve it regulates the passage of the fluid to give more or less light, as in a gas pipe valve. The shape of the cup part of the tube may be of any suitable form, to give the air a free chance to combine with or support the combustion of the burning fluid, and of a size suited to the amount of light required.

I have tried the principle with oil and it burns equally as clear and bright as with a wick, and will give any amount of light required; and I see no reason why it would not be an advantage, for it would be less work to keep them in order than lamps with wicks. It would be invonvenient to apply it to hand lamps; but where the lamps are fixed or stationary as in street and light houses lamps, for which latter use it would be a good advantage, for the fluid could be conveyed through one main pipe to as many burning points as required, and give a given amount of light all night, if the reservoir be sufficient above the burning points."

We have the name of the inventor—a citizen of Boston—but feel not at liberty to give it till the invention is further perfected.

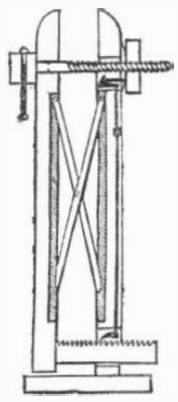
New Distance Reporter.

We have seen several carriage clocks or distanceclocks, of different constructions, for the purpose of showing the distances travelled over by carriages: but a neat finished model, or rather specimen, constructed on a very novel plan, has been left at our office, and deserves a more conspicuous notice than any thing of the kind which we have heretofore seen. All its precedents in that line have been required to be attached to the axletree, or some part of the carriage, and depend on a connecting rod to extend from the machine to one of the wheels, with various bearings and fixtures difficult to adjust. But this machine, (which is a little larger than a large watch,) may be attached by a strap and buckle (with which it is ready furnished) to any part of a wheel-hub, fellow or spoke—and without any appendage or connection will regularly indicate the distances travelled, from one rod to 3000 miles. The most proper position of the machine is in the centre of the hub cap, but it will work as well lashed to one of the spokes. We may venture to *guess* that many of our ingenious readers will find it difficult to conjecture the principle of the operation; and we can not conveniently inform them without an engraving. The inventor is Mr. James Stone of this city, who will be prepared shortly to receive orders for the curious and useful article.

Improved Paint Mill.

Mr. Emerson Goddard of Petersham, Mass., has constructed an excellent mill for grinding paints, &c., and which can be afforded as low as $3 or $3,50. We have a description of the peculiar construction of this mill, but think it not expedient to give the full description until we are prepared to furnish an engraving—probably in two or three weeks—but will only say that in its operation, the rolling and crushing and frictional principles are ingeniously united, and in a manner that will accomplish double the work in proportion to the resistance, or power applied, that is done by the ordinary paint mills.

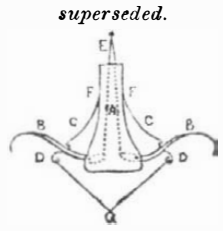
Patent Parallel Bench-vise.



We have been furnished by the manufacturer, Mr. A. M. Badger of Rochester, with a description of Taylor & Norton's new patent vise for carpenters use, and which is represented by the above engraving. Between the jaws is a cross or pair of shears, which are made of iron, connected at the centre by a rivet and connected to the jaws at the top by pivots or pins, while the lower ends slide vertically upon the inside of the jaws, whereby the jaws are kept as far apart at the bottom as at the top; the lower ends of the shears being kept in place by small grooves in the jaws. By this arrangement, the moveable jaw is supported by the shears without resting at all on the screw. On the cross bar near the bottom is a ratch, and a pall is adjusted within the moveable jaw so as to take to the teeth of the ratch; and a wire extends from this pall up to a spring behind the nut at the top, so that when the nut presses against the jaw, the wire is depressed and the pall (which is ordinarily elevated) is allowed to take to the teeth of the ratch. In our opinion, however, the vise is more perfect without the pall and wire appendage than with it; but the inventors must be allowed to be the judges in this case, though we are always partial to simplicity.

The King Fisher.

Triple-hook-Fish-trap: the Sockdologer superseded.



The machineh ere represented has been invented, and a drawing and description furnished to us by Mr. N. E. Goodwin, of Columbus, Mi. The centre stock A, is of a triangular form, and to the bottom, at the three corners, are attached three hooks B B, (only two of which appear in the cut,—the other being in the rear.) On the back of each hook is a small projection, and three springs C C, which are attached to the stock at F, extend down to the projections, and the ends of the springs being bent downward, take hold of the projections, and slightly hold the hooks in the position represented To the centreward ends of these hooks, within the hollow of the stock (represented by dotted lines) three branches of the line or cord E, are attached: and each hook has a small branch or scroll projection on its under side D D, to which a thread is attached, and the three threads unite in a small hook G, to which the bait is attached. Of the utility of the triple hook, the inventor remarks: "The advantages of the "Kingfisher" over the "Sockdologer" are, that if a fish *bites*, or even gives a "*glorious nibble*," he is a "*goner*." I saw the Sockdologer portrayed in the Scientific American, and it seems to me to be a prime contrivance if the fish will only bite at the *point* of the hook,—but if you ever fished any you know very well that the rascals take hold any where else rather than there if possible."

These Kingfishers may be made of different sizes for catching different kinds of fish, and may be made at a moderate cost: but as the inventor has no intention of manufacturing them, he will sell his right for a trifle; and if any of our readers ar disposed to take the management of the invention, they may communicate to this office.

Improvement in Baking.

It has been known for some time at Vienna, that if the hearth of an oven be cleaned with a moistened wisp of straw, bread baked therein immediately afterwards presents a much better appearance, the crust having a beautiful yellow tint. It was thence inferred that this peculiarity must be attributed to the vapor, which, being condensed on the roof of the oven, fell back on the bread. At Paris, in order to secure with certainty an appearance so desirable, the following arrangement is practised: the hearth of the oven is laid so as to form an inclined plane, with a rise of about 11 inches in 3 feet, and the arched roof is built lower at the end nearest the door, as compared with the furthest extremity. When the oven is charged, the mouth is closed with a wet bundle of straw. By this contrivance the steam is driven down on the bread, and a golden yellow crust is given to the bread, as if it had been previously covered with the yolk of an egg.

Improvement for Green Houses.

We find in an English paper a notice of an invention to supersede Glass for Horticultural purposes, called the Chemical transparent Waterproof Composition, for rendering Muslin calico or linen for the frames of Green houses, &c,, impervious to rain or moisture, admitting light equal to glass, much warmer, and the plants never burn under it. It is proof against hail storms so frequently destructive to glass.

Preparation of Silk.

A patent has been obtained in England for an improvement in the preparation of Silk, by submitting the silk in tightly distended skeins or hanks when damp to the action of currents of heated air, or air of ordinary temperature, whilst the fibres of the silk are held in tension in which it must remain until dry, for the purpose of producing lustre or gloss upon its surface.

Knife Cleaner.

A very simple "Knife Cleaner" may be made of two boards 20 inches long, 6 inches broad, and one inch thick, joined together, but not close, by a hinge. Two pieces of buff leather are stretched over the interior surfaces, and nailed on the exterior ones; and a handle assists in holding the apparatus steady. In using it, lay brick, or any similar dust, powdered, on the lower leather; shut the boards together, lay the left arm on the upper board, holding the handle; put the knife well wiped from grease, between the leathers, and four or five rubs backwards, not sideways, will produce a beautiful polish on both sides. The shoulders and back may be polished on the part of the leather turned over.

India Rubber for filling Teeth.

Caoutchouc (india rubber,) becoming very smooth and viscous by the action of fire has been proposed by an eminent English dentist, as an excellent remedy, for filling hollow teeth, and alleviating the toothache proceeding from that defect. A piece of caoutchouc is to be put on a wire, then melted at the flame of a candle. and pressed while warm, into the hollow tooth, and the pain will be removed instantly. The cavity of the tooth should be first cleaned out with a piece of cotton. In consequence of the viscosity and adhesiveness of the caoutchouc, the air is completely prevented from coming into contact with the denuded nerve, and thus the cause of the toothache is destroyed.

Decomposition of Steam.

Mr. G. Gurney states, from experiment that steam under high pressure is partially decomposed, and that in a state of gaseous vapor, it is capable of heating the iron flues to such an extent that linen is charred, gunpowder fired, and metal fused by it. Mr. G. suggests the use of fusible metal in some part of the pipes, as a preventive of fire, for, melting when the flues become too highly heated, it will allow the escape of the vapor, and, of course, assist in cooling the pipes.

Airy Project.

A Dr. Bevan of England proposes a new plan of applying atmospheric air to the purposes of locomotion. His idea is to make the atmosphere stimulate steam, and to move a train by means of heated compressed air in large copper vessels.

Steam Frigate Sidon.

The engines of the British mammoth steam frigate Sidon, above the water level are entirely made of malleable iron or of brass metal, in proportions of composition similar to gun metal, and equally hard as the best iron, to resist the action of the shot should they be struck during warfare. The expansion gear is worked by tappits below, and the shaft is perfectly clear of any trapping. Vacuum pumps are used instead of springs or balance weights.—The Sidon has also a patent reeling paddle wheel, the floats of which are regulated by those on deck, to suit the changes in draught of water ascending to the weight on board the vessel at the time.

Musical Sounds.

It is a curious fact in the history of sound, that the loudest noises always perish on the spot where they are produced, whereas musical notes will be heard at a great distance.—Thus, if we approach within a mile or two of a town or village, in which a fair is held, we may hear very faintly the clamor of the multitude, but more distinctly the drums and other musical instruments which are played for their amusement. If a Cremona violin, a real Amati, be played by the side of a common fiddle, the latter will sound much louder of the two; but the sweet brilliant tone of the Amati will be heard at a distance the other can not reach. Dr. Young on the authority of Derham, states that at Gibraltar, the human voice may be heard at the distance of ten miles. It is a well known fact that the human voice can be heard at a greater distance than that of any other animal.

Thus, when the cottager in the woods, or in the open plain, wishes to call her husband, who is working at a distance, she does not shout, but pitches her voice to a musical key, and by that means reaches the ear. The roar of the largest lion could not penetrate so far.—"This property of music in the human voice" says the author, "is strikingly shown in the cathedrals abroad. Here the mass is performed entirely in musical sounds, and becomes audible to every devotee, however placed in the remotest part of the church; whereas if the sound had been read, it would not have travelled beyond the precincts of the choir." Those orators who are heard in large assemblies, most distinctly, and at the greater distance, are those who by moulding the voice, can render it more musical. Loud speakers are seldom heard to advantage.

Burke's voice is said to have been a lofty cry, which tended as much as the formality of his discourse, in the House of Commons, to send the members to their dinner. Chatham's lowest whisper was distinctly heard. His middle tones were sweet, rich, and beautifully varied, says a writer describing the orator;—"when he raised his voice to a high pitch, the house was filled and the effect was awful, except when he wished to cheer or animate—and then he had spirit-stirring notes, which were perfectly irresistible."

The terrible, however, was his peculiar power. Then the house sunk before him;—still he was dignified, and wonderful as was his eloquence, it was attended with this important effect, that it possessed every one with the conviction that there was something in him that was finer than his words; that the man was greater than the orator.

Dried Strawberries.

Last summer, by way of experiment, when strawberries were plentiful, I attached threads to their stalks, and hung up a few which were over-ripe to dry. I placed them inside a window facing the south, where they remained from June last until the present time, (Jan. 28.) They have just been tasted, and the result is most satisfactory. That sweet refreshing acid which is peculiar to the strawberry in full perfection; the flavor of the fruit, without any watery taste, is delicious; it dissolves in the mouth as slowly as a lozenge, and is infinitely superior to the raisin, which so soon bring on a feeling of satiety. The strawberry thus dried is a stomachic. The experiment may be tried when the fruit is so ripe as to be scarcely worth gathering, without any further expense or trouble than being hung up.—*London Paper.*

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NEW YORK, MARCH 6, 1847.

Coal vs. Calloo.

It is estimated that the amount of capital employed in manufacturing at Lowell is a trifle more than *ten and a half millions* dollars. The board of trade of Philadelphia in noticing this fact, boast that the capital now invested in bringing the coal of Philadelphia to market, is *thirty-four millions* of dollars. It is hardly fair to pit the whole of the great state of Pennsylvania against a single town in little Massachusetts. But there is another aspect in the state of their trade, of which they may speak with pride. The whole sum expended by government since 1804 for roads, fortifications, harbors and rivers, say the board, does not much exceed *seventeen millions*, which is but half the sum expended by Pennsylvania in constructing avenues to bring one of her chief staples to market.

Legal Absurditics.

Why cannot we simplify the language of the law—why not banish its old black letter Vandalism? *"Sir, I give you this orange,"* and I do give it—should not that declaration and transfer be an absolute conveyance? Yet to make it perfectly legal, it must read thus:—

I give you all and singular my estate and interest, right title and claim and advantage of and in that orange, with the rind, skin, juice, pulp, and pips, and all right and advantage therein, with full power to bite, cut, suck, or otherwise eat the same, or give the same away, as fully and effectualy as I, said A. B., am now entitled to bite, cut, suck, or eat the same orange, or give the same away, with or without its rind, skin, juice, pulp, and pips, anything heretofore or hereinafter or in other deed or deeds, instruments of whatever nature or kind soever, to the contrary, notwithstanding—with much more of the same effect.

Secret of Pill Making.

All the ' unequalled,' ' surprising,' ' astonishing,' and ' miraculous,' vegetable pills which are sold at from 25 to 50 cents per box, are composed chiefly of aloes, gamboge and soap, and any apothecary can make up as good a box of pills as the best patent article of the kind for 12 1-2 cents, and realize fifty per cent profit by the job. Aloes are the principal ingredient; it is a good purgative medicine in some cases, but the use of it may sometimes be attended with great inconvenience and danger. No conscientious man can recommend aloetic pills as a *universal* medicine. To how to what extent the manufacture of pills is carried on, we would just mention that some short distance from this city on the North River, there is a manufactory of pills at which it is not uncommon to see sloops filling up with the article, regularly done up in *casks*.

Shameful Venality of the Press.

One of the daily papers last week contained an editorial expressing decided approbation of the Sunday papers, and of the practice of publishing and circulating papers on Sunday. But in answer to some remonstrance on the subject, frankly admitted that the editorial in question was contrary to the principles of the publisher, but was *paid for* as an advertisement. Mending the matter with a vengeance, thought we. So then, the publisher, by this rule, would not only sell his own soul, but consign the whole community to degradation and perdition, provided it was *paid for*.

Common Sense.

Its value, who can tell? It is the philosopher's stone; turns everything to gold, pure gold. Study it, O Study it. Husbands and wives, parents and children, lawyers and doctors, tailors and coblers, ministers and editors, speakers and hearers—study it, study it upon your knees. Some students take a seven years' course, come out bright theologians—coats shine, fairly glisten. But where's common sense? Put on your *"specks"* What! can't see it yet? Well then, take the microscope.

Boston Railroads.

It will be seen that of all the railroads radiating from Boston, there is none which has not exceeded in its amount of traffic even the most sanguine anticipations of its friends.—The fact that the roads carried in 1845, a number of passengers three times as large as the population of Massachusetts, will be quite surprising to those who have never seen the statistics on this subjects. The statements of the writer are another proof of the well known fact that railroads create every where more travel than they can first accommodate. The following remarks on the comparative advantages of railway and water conveyance are commended to the attention of such as are moved by the matter of steamboat competition.

Taking the Lowell, Worcester and Providence railroads, the freight business of 1846, exceeded the original estimates from three to five times, and the passenger business from six to nine times. Their total aggregate receipts were in 1840, $900,857; in 1846, $1,-557,462—showing an increase in five years of 72 per cent. or an annual average increase of 14 1-2 per cent.

It appears that the increase in the traffic has been greater on passengers, as compared with the original estimates, than on freight. This may be said of railroads generally. When first opened for general traffic, it was not supposed that they would reach a greater speed than 12 to 15 miles per hour; but it was soon discovered (in the progress of improvements in their construction, and in locomotives,) that a higher speed would be attained; and trains of passenger cars can now move on most of the roads in this vicinity with a running speed of 25 to 35 miles per hour, exclusive of stops to take in wood and water, and to receive and discharge passengers; or the speed, including all stops, may be taken at 22 to 28 miles per hour. On well constructed roads it has been shown by experience that a speed of 30 miles per hour (including two stops) is a pleasant and agreeable motion, and may be maintained without any extraordinary expense.

It appears from official documents that the six railroads radiating from Boston, carried in 1845 about 2,400,000 passengers, which is nearly three times the population of the state. This great number of passengers is the result of the great facility the roads afford in the ease, safety, certainty and speed of transit.

It can no longer be doubted by any man who will examine the subject with candor, that for all transportation requiring celerity and certainty, the railway is superior to the best water conveyance. With a moderate velocity, a vessel is easily propelled through water; but to increase the speed, produces an increase in the resistance of the water, equal at least to the square of the velocity. That is, a boat moving 20 miles per hour, requires at least four times the power that would propel it 10 miles per hour. Hence the great increase of power required to raise the speed of steamboats. A man will run through the air with very little resistance; but how fast would he run through the water? The rail car moves through air, having no other difference except the friction, which requires one pound to move 270 lbs.—A little reflection will convince any sensible man that steamboats never can compete with good lines of railway for speed.

The city has largely reaped the benefits of this improvement, as also the country through which the railroads pass. To them it has truly been an "epoch," giving new vigor to every species of industry.

Magnificent Project in England.

A company with a large capital, are engaged in the erection of 1200 houses for the use of the laboring classes, who are to be conveyed back and forth from home to their daily toil by the railway. It is also in contemplation to erect villages at convenient distances from all large cities and towns, to which the working classes can travel every morning and return home at night without costing more than is now expended for badly ventilated and unhealthily-located dwellings for the poor under the present system.

The surplus produce in the United States, for exportation is estimated to be—Wheat 3,000,000 bushels; Flour, 3,500,000 barrels; Indian corn and meal, 17,000,000 bushels.

Refraction.

Mr. Editor.

Being a subscriber to your interesting paper, and noticing therein your ready compliance in answering the interrogatories of your correspondents, I have taken the liberty to address you upon a subject which may not be foreign to the object and purpose of the Scientific American,—the refraction of the rays of light.

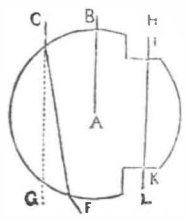
The one and only reason that I have seen assigned by naturalists for the refraction of light, is the different density of the media through which it is made to pass. But I have not been able to find any author who pretends to tell *why* a difference in the density of the media should thus produce this phenomena.

From a late examination of this subject, I have been led to doubt the correctness of the generally received opinion on this subject, and I wish to submit to your consideration and criticism, the value of the reasons which led me to this doubt.

1st. If density is the cause of refraction then it can be nothing else, and no other property can influence it. This being allowed, if we find accidental properties varying the refrangibility, then it cannot be density which produces it.

2d. If the assignment of a cause to account for a certain effect, be found to conflict with the operations of a known law of nature, then that assignment is proved to be fallacious.—Hence, if refraction by density is in this dithis dilemma, it can no longer be by density.

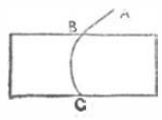
If the increased or decreased density of a medium through which a ray of light may pass, causes a refraction, then the varied inclination of the surface of the medium can produce no variation in the refraction. Hence,



if through a spherical body of glass A, a ray of light B A, is thrown in a line with the centre, there can be no refraction, because the ray falls upon the sphere at right angles with its surface, and in line with the centre of its mass. But if the ray as at C D, falls obliquely upon the surface of the sphere, instead of continuing in a right line to G, it is refracted in the direction D E, and at F, where it leaves the sphere, it is still more refracted in the direction E, F. Now, if this refraction is caused by the increased density of the glass sphere no change in its surface where the ray falls upon and leaves it, supposing the arch of the circle as described by the ray to be the same, could in the least vary the refrangibility.—But we find that if the surface of the sphere at I, is made a right angle with the ray of light H I, the ray will continue its course in a right line to K, and there, if the surface of the sphere is notched as at I, it will pass out in a direct line to L, and there will be no refraction from H to L. Thus it would appear that something beside the varied density of the media, effects a change in the direction of the rays of light; and something too beside the attraction of the mass towards its centre. This view of the subject has led me to believe that the phenomenon of refraction instead of being attributable to the varied density of the media, is owing to a reflective property of the surfaces, as yet unknown to us, which varies in different transparent substances.

And there is yet another reason which tends to establish the same conclusion. The active powers of nature never lose their force, but superadd their force continually to the momentum already given by their influence, and thus accelerate the motion and direction of the thing acted upon. Thus, a stone let fall from a height is accelerated in motion till it reaches the earth, by gravitation continually superadded to acquired velocity. Again, the power of the sun to retain the earth in its centripetal movement one degree, will also confine it to that movement three hundred and sixty degrees.

Now, applying this general law of nature to the phenomenon of refraction, if density is the cause of refraction, then should a ray of light passing through a material medium describe a curve instead of a straight line; and the size of the curve would be determined by the density of the particular medium. Because, if a ray of light A B. fig, 2, in passing



in a straight line through a vacuum, and coming to a glass medium at B, is made to change its direction on entering the glass, by its greater density, then every point of advance must describe a corresponding change of direction from the last point, and a regular curve be the line of direction, as from B to C, as the second particle of glass through which the ray passes, possesses the same power to change the direction of the ray from the first particle, that the first had to change its direction from the vacuum, and so on. But refraction being always by angles, instead of curves, it follows, if my reasoning is correct, that it is not caused by density.

From these two illustrations I draw the following facts and conclusions: That the refraction takes place at the surface of a new medium: that it is only produced where there is an obliquity of the direction of the rays to the surface of the medium; that it is not caused by the density of the medium; but that refraction is produced by some property on the surface of a medium, and somewhat similar to reflection in its operation and results.

There is much yet to be said on this subject, but I have no more time now to devote to it; and you can easily see that what I have written has been done in haste.

Very respectfully yours,

EDWARD WILBUR.

Albion, N. Y. Feb. 8 1847.

Waterford Manufacturers.

In the small village of Waterford, Saratoga Co. there is the largest Fire Engine Manufactory in this country. Twenty four fire engines were made here last year, 12 hose carriages, 10,000 feet of leading hose, & 500 feet of suction. Nothing but fire engines are manufactured by Mr. Button, and orders are supplied by him to every part of the U. States, with a satisfaction, I have been informed, which won for him a prize of $500 in Mass., and was with a liberality deserving much encomium, immediately made a present of, to the fire company that got his machine, and was victorious in the contest. Waterford is quite a smart manufacturing villiage. Mr. Gage's machine shop is famous for the manufacture of *slide lathes* and printing presses. Here also is the well known Button Manufactory, so much indebted to the genius of that celebrated mechanic Mr. Barton, whose biography, we trust, we shall soon be able to present to the readers of the Mechanic's Journal. There is also the Linen Twine manufactory of Mr. Beardsley, producing a great amount of shoemaker's thread and warps for coarse carpet. There is also a foundry in this place, and a number of grist mills. Waterford is situated on the banks of the Hudson and Mohawk, and is well adapted for manufacturing except in times of high water, which from the nature of its location produces what is called back water on the wheels, and either stops their movement altogether or much diminishes their speed. The only remedy for this is a steam engine to be used in such cases, and which has been successfully and economically used in a number of places, such as at the Lodi foundry, Syracuse, and at the Rochester R. R. machine shop. —*Mech. Jour.*

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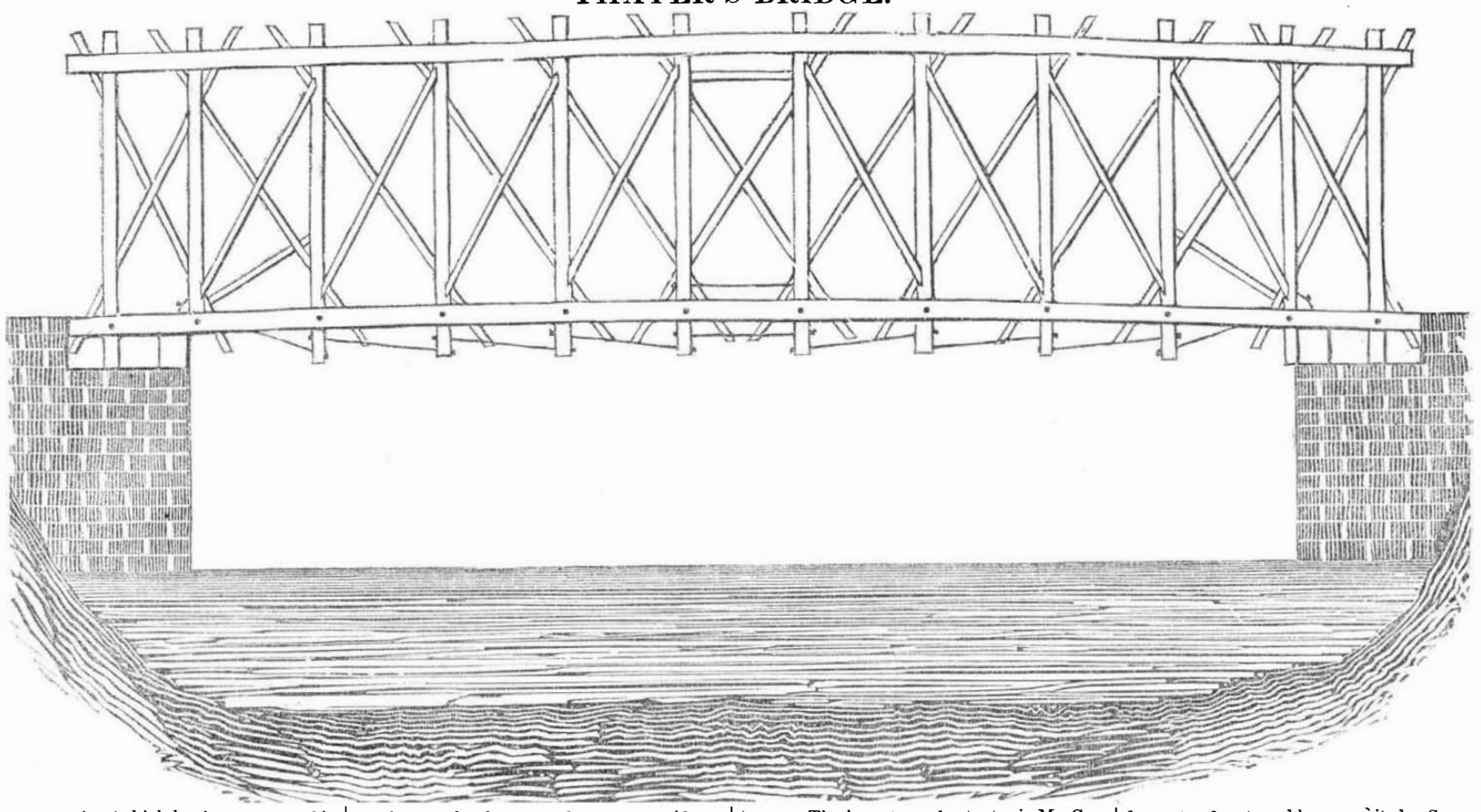
THAYER'S BRIDGE.



This engraving (which has been procured in too much haste for elegance) shows the general arrangement of a single series of timbers which constitute a truss of the celebrated bridge recently constructed over the Delaware at Narrowsburg, Pa., as noticed in a former number as the largest and most magnificent bridge in the United States. We have seen a letter recently written by a gentleman resident near this bridge, who speaks highly of its permanence, and states that the structure is much admired by those who cross it with heavy teams. The inventor and patentee is Mr. Geo. W. Thayer of Springfield Mass., who has engaged several large bridges to be constructed on the same plan. The truss here represented, it will be understood, is but one of two or four sets of posts and braces united. Some of the important peculiarities in the construction can not be fully illustrated with sectional cuts on an enlarged scale, and will be deferred to a future number.

The Farmer's Weather-ometer.

The following is a description given by a correspondent of the Ohio Cultivator, of several contrivances used by farmers in Europe and America, to indicate the changes of the weather.

The first is the *Leech Barometer*, which is thus described :—Put a leech into a large phial three parts full of clear rain water, regularly changing the same thrice a week. Place it in a window fronting the north. In fair and frosty weather the leech will be motionless, and remain rolled up in a spiral form at the bottom. Prior to rain or snow it will creep to the top, where, if the rain will be heavy and some continuance, it will remain a considerable time—if a trifling rain is about falling, it will descend. Should the rain or snow be accompanied with wind, it will dart about its habitation with astonishing celerity, and seldom cease until it begins to blow hard. If a storm of thunder and lightning is approaching it will be exceedingly agitated, and express its feelings in violent convulsive starts at the top of the phial. It is remarkable, that however serene and favorable the weather may be, and not the least indication of a change, either from the sky, the barometer, or any other cause whatever, yet if the leech ever shifts its position, or moves in a desultory manner, the coincident results will certainly occur within thirty six hours, frequently within twenty four,, and sometimes in twelve, though its motions chiefly depend on the fall and duration of the wet, and on the strength of the wind.

The *Hygrometer* is a contrivance by which we are enabled to measure the degrees of dryness or moisture of the atmosphere.

There are various sorts of hygrometers, for, whatever body either swells or shrinks by moisture or dryness, may be formed into a hygrometer.

1st. A sponge makes an excellent hygrometer, not losing its efficacy by use as many substances do. To prepare the sponge, first wash it in water, and when dry wash it in water again, and wherein sal ammoniac, or salt of tartar, has been dissolved Now, if the air becomes moist, the sponge will grow heavier, and if dry it will become lighter.

2d. In order to make a hygrometer with those bodies which acquire or lose weight in the air, place such a substance in a scale on the end of steel yard, with a counterpoise which shall keep it in equilibria in fair weather—the other end of the steel yard rising or falling, and pointing to a graduated index, will show the changes.

3d. On this principle, a Mr. Edgeworth, of England, made a wooden automaton Its back consisted of soft fir wood about an inch square, and four feet long, made of pieces cut cross way in respect to the fibres of the wood, and glued together. It had two feet before and two behind, which supported the back horizontally—but were placed with their extremities (which were armed with sharp points of iron,) bending backwards. Hence, in moist weather, the back lengthened, and the two foremost feet were pushed forwards. In dry weather the hind feet were drawn after, as the obliquity of the points of the feet prevented it from receding. And thus, in a month or two, it walked across the room which it inhabited. Might not this machine be applied as an hygrometer to some meteorological purpose ?

(*To be Concluded.*)

The Power of the Savior's Name.

When the pious Bishop Beveridge was on his death bed, he did not know any of his friends or connections. A minister with whom he had been well acquainted, visited him, and when conducted into his room, he said, "Bishop Beverage, do you know me ?" "Who are you ?" said the Bishop. Being told who the minister was, he said he did not know him.—Another friend came, who had been equally well known, and accosted him in a similar manner, "Do you know me Bishop Beverage?" "Who are you ?" said he. Being told it was one of his intimate friends, he said he did not know him. His wife then came to his bedside, and asked if he knew her. "Who are you ?" said he. Being told she was his wife, he said he did not know her. "Well," said one of them, "Bishop Beveridge, do you know the Lord Jesus Christ !" "Jesus Chirst," said he, reviving, as if the name had produced in him the influence of a charm, "O, yes, I have known him these forty years, precious Savior, he is my only hope."

A proposition is before the Legislature of Massachusetts to establish a State Asylum for inebriates, and meets with much favor.

The aggregate of contributions in this city for the relief of the suffering people of Ireland, is supposed to exceed $100,000.

TO CORRESPONDENTS.

"A. J. of L."—We regret to say that you have not defined the point of your interrogation sufficient to enable us to give an opinion, as we are not particularly acquainted with the wheel to which you allude. Otherwise we should have answered by mail.

"D. W. S."—You have not specified whether the centrifugal force of the ball is to be included or only the shaft and plate. If the ball is not included, we do not see why it was mentioned in connection. Let us understand about that.

"H. M. of C."—Water cannot be heated above 212 degrees in open air ; but when it is made to boil violently, it has a more powerful effect on vegetables &c., and the reason of this is that the agitation of the water keeps a constant application of the hottest portion, to the surface of the vegetable, whereas without this agitation, the water in contact with the surface might remain in contact after its temperature had become reduced by having imparted a part of its heat to the vegetable. With regard to Fahrenheit, he was evidently not accustomed to very cold weather.

"A. L. K & Co."—Yours of the 3rd ult., was unaccountably detained, and did not reach us till last week. However we *did* write by mail,—a long letter with description. We can not afford another description and drawing without some little con-sid-er-a-tion.

"E. G. of P."—Your new plan of water-wheel has abundance of novelty, and will probably work well. We can not do justice to the subject, however, without engravings which would cost about $5. Perhaps, it may be for your interest to send the money for an engraving. Inform us of the success of your new mill.

"S. P. C. of R."—The most approved and successful plan that we have seen for packing the valve pistons of air pumps, is to wrap a piece of fine, firm, thin calfskin or morocco leather round the piston (a slight groove or recess being turned therein for that purpose very close to the end) chamferring the ends obliquely on opposite sides at opposite ends so that when the two ends are lapped, or one extended over the other, the two shall constitute the ordinary thickness of the leather single. This is lashed to the piston with silk thread, and saturated with oil. The leather must be thick enough to fill the barrel perfectly and should be reduced to an edge at the bottom by paring off the inside corner that the air may naturally press the leather outward.

"J.R. C. of L"—We are in receipt of your description and drawings, and find much scientific ability evinced therein. We shall examine the subject more minutely and write or you by mail as soon as certain results in connection, are ascertained. Your request will be complied with.

"E. W. of A."—On the subject of criticizing the theories of our popular professors, on natural philosphy, we found errors so prevalent, and often difficult to illustrate, that we were induced to decline the task

"T. H. D. of N."—Your improvement in safety valves is based on rational principles and will work well. Your long descriptive communication on other improvements will be published with illustrative engravings, if you will remit the trifling sum of two dollars, *towards* defraying the expense thereof.

"J. C. of St. A."—We admire the ingenuity evinced in your oscillating engine, and shall probably procure an engraving to illustrate the plan on a small scale, ere long. The principal objection to its utility is the curved form of the piston rods which would prevent their ability to sustain a great pressure.

"A. T. of P."—We have given in a former number of this paper, the best method known of permanently coloring marble. Gallate of iron, Prussian blue, indigo, verdigris and various other coloring materials will stain deep and permanent by applying them with hot alcohol, the marble being warm. Spirits of turpentine is sometimes used as a menstruum : also hot beeswax. The durability of the polish of the ancient marble work was principally on account of the superiority of the material. It is supposed, however, that the ancient sculptors saturated the surfaces of their work with refined pitch or resins, which were melted upon the surfaces and made to penetrate the pores, by the radient heat of a heated stone, which was held contiguous to the surfaces.

The best artificial marble for standing exposed to the weather, consists of pulverized marble and the peculiar substance known as *water lime* (calcined septaria) suddenly mixed to the proper consistence with water.—Three parts marble to one of lime is a fair proportion. A beautiful marble for inside finishing is made by mixing plaster of Paris with a

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strong hot solution of allum. Either of these may be colored by working any dry ground coloring material into the surfaces before they are dry; or by the methods used for staining marble.

With regard to cements, flake white mixed with melted gum mastic is far superior to white lead and shellac (white sealing wax.) Ground marble 2 parts flake white, 1 part with three parts mastic may be about the right proportion. If this is too hard to melt, white rosin and mastic may be mixed, and this may be softened by the addition of one part in volume, of spirits of turpentine, before the marble and flake white are added.

"N. E. G."—The modern process of arranging or refining gold and silver, is somewhat tedious, and very different from what you appear to suppose. But as we have published the process in a former number, we need not repeat it in this.

"J. P. of A."—Since you have excited our curiosity by voluntarily informing us that you have found something decidedly better than mahogany sawdust, to prevent the encrustation of steam boilers, we must claim the right to know what the material is. Please inform us without delay, or we may publish your letter with full name.

"R. & Co. of B."—We have no knowledge of any machine in operation for sawing knees and other ship timbers to the required peculiar shape thereof, though it is clear that the construction of such a machine is practicable, and is much needed. A machine has been some years in operation for cutting plough beams, on the hewing principle, and its application to hewing ship timber has been spoken of; but it has not been thus applied, and we think it would not succeed so well as a properly constructed sawing machine.

"J. P. of P."—There is no doubt that you might procure and hold a valid patent on the mode of applying power to the machine which has hitherto been worked by hand only. But we have seen a machine at least similar to the one you speak of, in operation by steam power. Should you send us a description of your improvement, we can ascertain through our agent at Washington whether it will interfere with anything now in use. We can inform you of the cost of the drawings &c, when we see a model or description.

"R. M. L of M."—The best composition for the purpose of casting backs or stocks upon a series of small wire teeth is made of tin and lead, equal parts: or. 4 parts lead with 5 parts tin. If only a few casts are wanted, moulds made of white-wood, bass or white pine will answer best, because the alloy will not cool so quick in these as in other materials. The best durable material for moulds is plaster of Paris; and even soap stone is in many respects preferable to metal moulds.

When the proportions of ingredients are designated by so many parts each, it is to be understood that all the parts of all the ingredients constitute the whole; for example, if three parts bismuth, two parts tin, one part lead, and one part antimony are specified, it is to be understood that the compound consists of seven parts, and the proportion of each ingredient is thus shown.

"A. S. B. of A."—Your proposed mode of propelling vessels is different from that noticed as Fulton's propeller, but is not original nevertheless. Various plans for propelling vessels by drawing water from under the bows and forcing it out at the stern, have been experimented on within the last ten years; and one of the first was very similar to yours. But they have all been (or will be) abandoned because they did not succeed; and the reason why they did not succeed, we shall endeavor to explain. If the water could be made to pass directly from the stem to the stern, without check, the vessel would be propelled forward without much loss of power; but by drawing the water into a cylinder or chamber between the two extremities, its momemtum is lost, and an equal force must be required to overcome its inertia again in expelling it, thus expending double the power that is actually applied to the propulsion of the vessel. It would be vain to think to remedy this difficulty by using two vertical or lateral piston cylinders, since every particle or quantity of water must be checked in its progress, and be put in motion the second time. We have some time since seen a sketch of a plan in which a central wheel was supposed to act in such a manner on a central aquaduct as to produce a continuous current from stem to stern: but this plan has never been tried even for experiment, and the inventor does not think much of it. We *may* give a representation of it soon, for the satisfaction of those whose minds are engaged on the subject, and perhaps you will be ready to suggest some other improvement that will be more simple and supersede all others.

"R. C. of C."—The electrical light of which you enquire, has not yet been put to practical use, for the reason that we have been too deeply engaged otherwise to attend to it: but we can answer most of your enquiries nevertheless.—It may be used for lighting Halls, but is too intense unless partly obscured by a ground glass globe or screen. The batteries will continue in operation twenty four hours without attention. The zinc cups will last three months *constant* use; and may be replaced for a dollar. The probability is, that with a judicious combination of recent improvements, this will be the cheapest light that can be used, day light only excepted.

Thrilling Incident.

At a Temperance meeting in Philadelphia, some years ago, a learned clergyman spoke in favor of wine as a drink; demonstrating it, quite to his own satisfaction, to be scriptural, gentlemanly, and healthful. When the clergyman sat down, a plain, elderly man rose, and asked the liberty of saying a few words. "A young friend of mine," said he, who had long been intemperate, was at length prevailed on, to the great joy of his friends, to take the pledge of entire abstinence from all that could intoxicate. He kept the pledge faithfully for some time, though the struggle with his habit was fearful: till one evening, in a social party, glasses of wine were handed round. They came to a clergyman present, who took a glass, saying a few words in vindication of the practice. "Well!" thought the young man, "if a clergyman can take wine, and justify it so well, why not I?" So he also took a glass. It instantly rekindled his fiery and slumbering appetite; and after a rapid downward course, he died of *delirium tremens*—a raving madman"

The old man paused for utterance; and was just able to add:—"That young man was *my only son;* and the clergyman was the *Reverend Doctor, who had just addressed the assembly!*"—*Banner of Temperance.*

A Mrs. Armitage is now being exhibited in England, who is only 29 years of age, and weighs 445 lbs. Her bust measures 72 inches, and her ankle 18 inches in circumference.

ADVERTISEMENTS.

☞ This paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

Advertisements are inserted in this paper at the following rates:

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TERMS:—CASH IN ADVANCE.

Foster's Window Shades.

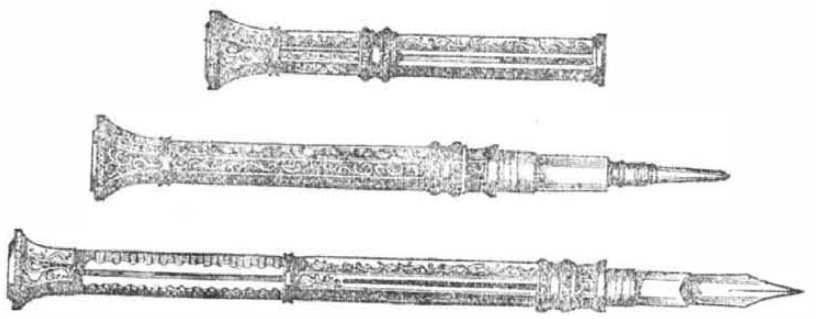
THE NEW PATENT FRICTION WINDOW SPRING, recently invented by G. P. Foster, of Taunton, Mass. is now ready and for sale as below. It consists of a spring attached to the sash made to bear upon the inside of the window frame, and thereby holds the sash in any position with equal strength of a cord and weight.

These convenient springs have been tested and are known to supersede every other spring yet invented, for convenience, while, for durability, they will last much longer than any kind now in use.

They may be seen at the hardware store of W. N. Seymour & Co. No. 4 Chatham Square, and may be had upon application to James Lancaster, Agent for this city, at the same place, who will give full instructions in adjusting them. m6 4t*

Engraving on Wood

NEATLY AND PROMPTLY EXECUTED AT the OFFICE OF THE SCIENTIFIC AMERICAN, 128 Fulton st, three doors from the Sun Office. Designs DRAWINGS of all kinds for PATENTS, &c., also made, as above, at very low charges. 1



Bagley's Patent Extension Penholder and Pencil.

THIS is the most compact, complete, convenient and useful pocket companion ever offered to the public. The multiplicity of its usefulness and the smallness of its size, renders it a perfect MULTUM IN PARVO.

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New York, Sept. 1, 1846. o24 tf

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STATE OF NEW YORK, CITY OF NEW YORK, SS.—On the 16th day of February, A. D. 1847, appeared before me Doctor S. B. Smith, who being by me duly sworn, did depose and say that the following certificates and extracts from letters are each and every one of them true as received from the several persons whose names are thereunto attached, and that the same are a portion of the many testimonies of the cures by his Magnetic Machine.

Affirmed before me, this 16th day of Feb. 1847.
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Acting Mayor of the City of New York.

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Superintendant of Portsmouth, N. H.
d12 6m* Steam Mills.

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He has the honor of referring, by permission, to—Hon. Edmund Burke, Com. of Patents; Hon. H. L Ellsworth, late do; H. Knowles, Machinist, Patent Office; Judge Cranch, Washington, D. C.; Hon. R. Choate, Mass., U. S. Senate; Hon. W. Allen, Ohio, do; Hon. J. B. Bowlin, M. C. Missouri, Hon. Willis Hall, New York; Hon. Robert Smith, M. C. Illinois; Hon. S. Breese, U. S. Senate; Hon. J. H. Relfe, M. C. Missouri; Capt. H. M. Shreve, Missouri. j23

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Polishing Furniture.

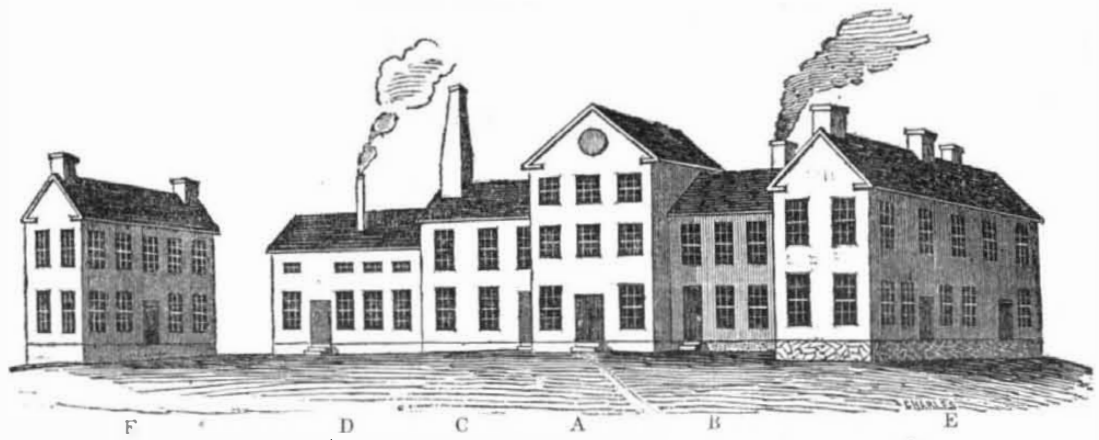
A durable and permanent glossy polish on furniture is produced by copal varnish. Two or three coats of varnish are applied with a brush in the ordinary way, each coat being allowed snfficient time to dry thoroughly.—Smooth and level this with pulverized pumice stone moistened with water, applied with a piece of cotton or linen cloth. When this is done, fine rotten stone moistened with water is rubbed over the work with a piece of cork covered with two or three pieces of fine flannel, and finish by rubbing with the hand. Then work off the rotten stone, and rub over the wash with fine flower, and wipe the surface clean and dry.

Another kind called the *French polish*, is generally used for fancy boxes and some kinds of furniture, and has the advantage of drying immediately. The principal article used is the best shellac dissolved in alcohol. The surface of the work is first rubbed over with olive oil. Make a ball or puff of flannel, and dip it in the solution, that the ball may become moistened nearly through; then cover the ball with fine linen cambric or muslin; dip a finger in olive oil and rub it gently over the linen; then with the ball thus prepared, rub over the work, with a circular motion, gradually extending over the surface, so that the application may be made in various directions to every part of the surface, and increase the pressure on the ball as it becomes exhausted of its solution.—Then work the ball (rubber) with a straight motion, in the direction of the grain. Replenish the rubber as often as required in the course of the process; and when the surface appears to be fairly coated, moisten the rubber with alcohol and proceed as before, until the surface presents a smooth and beautiful lustre. Some little experience is required in this business, but it may be soon acquired by practice.

Instruction for Zincographing Plans, Sections, and Drawings.

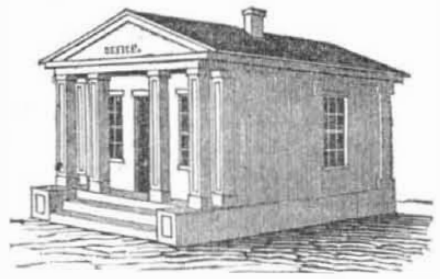
Transfer a tracing of the drawing to be zincographed on, to a zinc plate properly prepared for drawing on—the transfer is to be made in a manner similar to that employed for lithographing. Having transferred the tracing, take off the latter, and with a perfectly clean silk handkerchief remove the superfluous red chalk which will appear on the plate—draw in the lines and other parts in precisely the same manner as on stone. In drawing on zinc, be careful not to breathe on it, and keep it at all times in a dry place; the least damp has a tendency to corrode the metal, when the drawing would be spoiled. Great care is requisite to keep the surface of the plate free from dirt, even the fingers must not be allowed to touch it, or those places where they are allowed to rest will be rendered quite unfit for use. It is a very good way to keep so much of the plate as it is not actually being worked on, covered up. If spots of ink or grease should accidentally find their way on to the plate, they may be removed by rubbing such places with a little clean turpentine, and a piece of blotting paper. Zincography has much to recommend it in preference to lithography, as regards its use for plans and sections. It is not an invention of as long standing as lithography, and although the use and treatment of the zinc plate in the hands of the draughtsman is perfectly as simple as that of stone, yet with the printer the case is different. Printers in general have not had as much experience of zinc printing as they have had of stone printing, consequently there are fewer available zinc printers; this will not long be the case, for experience teaches us that zinc is the preferable material for railway plans and sections and for all works of magnitude requiring speed in the execution. Its extreme portability and cheapness are its principal recommendations. It is much easier drawn on than stone. It is a difficult matter to use the drawing pen without a ruler on stone, the surface being polished there is a liability to slip; but the zinc being grained, the grain very much resembling drawing paper, the drawing pen lays hold of it, and crooked or straight lines may be drawn with as great facility as on drawing paper. Drawing on zinc is very destructive to the drawing pen. It will be necessary to set the pen about three or four times a day to insure always drawing fine lines. The best drawing pen to use for drawing on zinc is Hawkin's Everlasting Pen."

INVENTORS' INSTITUTE.



This is a brick building in the form of a hollow square. It was built in 1757, for barracks. and was occupied during the Revolutionary war by the British soldiers. That part of the building adjoining the Engine house has been torn down, but will be rebuilt.

A. Machine Shop.
B. Padlock Factory.
C. Keg Factory.
D. Engine House.
E. East wing, unoccupied and divided into eight distinct apartments for private workshops of inventors.
F. West wing, unfinished in the interior.
OFFICE.—16 by 36 feet.



The above is a correct representation of the buildings provided for the use and benefit of the Inventors Institute, or new association of American Inventors, to which we alluded in our last number. The object of the Institute is not to benefit a few aristocratic stockholders at the *expense* of inventors; nor the exclusive benefit of a few prime movers: but particularly to bring forward to perfection, and introduce to practical utility, the inventions of those whose circumstances are such that their inventions have hitherto been, and would otherwise continue to be dormant and obscure, for want of means and facilities to bring them into notice and practical use. The constitution of the Institute is not yet matured, but it is proposed to examine by appointed Committees, all new inventions, and plans of improvements that may be offered, and select those which are thought worthy of being constructed or manufactured: to furnish pecuniary aid to inventors who require it, and facilities for perfecting their plans and inventions—procure patents and manufacture such newly invented articles as are suitable, and vend patent rights by territory or otherwise, of others, paying to inventors one half of the profits, or occasionally buying outright the inventions paying to inventors such prices as may be mutually agreed upon: and making an annual or semi-annual dividend of the profits arising from these operations to all the members of the Institute. Every inventor who produces an approved invention, or any other inventor or mechanic who may pay $50 at one time, may become a permanent member and stockholder; and any inventor or mechanic who pays six dollars annually in advance, will be entitled to all the privileges and dividends of a stockholder during the year succeeding such payment. As before remarked, these are only proposed, and not the adopted features of the institute, which is not yet organized. But a charter on the most liberal terms has been obtained for fifty years under the title of the "Perth Amboy Manufacturing Company," and the buildings above represented, are already partly occupied by successful new inventions, and the manufacture ot others: and it is contemplated to establish a ware house and Inventors Hall in the city of New York, where inventions will be deposited for examination, &c. We shall give further notice of the progress of the Institute occasionally, with extracts from the circular published and circulated. Those who are in favor of encouraging, and patronizing this institution are requested to signify the same by letter (postpaid) addressed to Dr. Solomon Andrews of Perth Amboy N. J. or to the editor of this paper.

Amusing Toy.

The *Thaumatrope*, or Wonder worker, an exceedingly amusing toy of very simple construction and pleasing effect, is made in the following manner: Cut out a piece of card board of circular form, and fix to it six pieces of string, three on each side. Paint on one side of the card a bird, and on the other a cage, being careful to draw them upside down to each other, otherwise the desired effect will not be produced. When showing the toy, take hold of the centre strings between the forefinger and thumb of each hand close to the card, and twist or twirl the card rapidly round; when lo! the bird will appear snugly ensconced in his cage. The principle on which this pleasing toy acts, is, that the image of any object received on the retina or optic nerve, which is at the back of the eye, is retained in the mind for about 1-8 of a second after the object causing the impression is withdrawn, consequently, the impression of the painting on one side of the card is not obliterated ere the painting on the other side is brought before the eye; it therefore follows that both sides are seen at once. The subjects suited to the Thaumatrope are very varied, amongst others, the following are well calculated for display; a juggler throwing up two balls may be drawn on one side and two balls only on the other, and according to the pairs of strings employed he will be seen to toss two, three, or four balls; the body and legs of a man on one side, and his head and arms on the other; a candle and its flame; a mouse and a trap, and a horse and his rider; this last is a very good one as by using the different pairs of strings, the relative positions of man and horse may be varied most singularly.

Origin of Naval Architecture.

The first vessels were beams joined together, and covered with planks, pushed along with long poles, in shallow water and drawn by animals in deep water. To these succeeded trunks of trees, cut hollow, termed by the Greeks monoxyles. The next were planks joined together in the form of monoxyle. The thought of imitating a fish advanced naval architecture. A prow was constructed in the imitation of a head, a stern with a moveable helm, in imitation of the tail, and oars in imitation of the fins. Sails were at last added, which invention was so early that the contriver is unknown. Before the year 1545 ships of war in England had no port holes for guns as at present; they had a few cannons placed upon the upper deck. In 1806, the successful application of steam for the propulsion of vessels, and the invention of the repeating gun for the use of powder or steam, has brought the art of war to such perfection, and rendered it so totally destructive, that an engagement between two fleets is little short of utter annihilation

Use of Grapes.

Dr. Underhill strongly advies the culture of grapes, both on account of the profit to be derived from the sale of them, and from their value as food to sick and convalescent persons. At a late meeting of the New York Farmer's Club, Dr. Underhill made some highly valuable observations on this subject. After fifteen years trial with various kinds of grapes, he prefers some of our natives, and recommends the Catawba and Isabella. He has three acres of the former, and seventeen of the latter. He says our people eat too much animal food which renders their blood too thick, and causes diseases of the heart, liver and lungs. He thinks it would be infinitely better to substitute grapes and other fruit, for a portion of animal food.

SEEDS steeped in muriate of ammonia, half an ounce of ammonia to a gallon of water, will assist vegetation and the benefits be perceptible on a trial of the experiment.

The iron steamship Alleghany was launched at Pittsburgh on Monday in safety. She is to be attached to the U. S. Navy, and is fitted with Hunter's submerged propellers.

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